

extremities crossed within. The galvanic apparatus used was a pile composed of sixty plates about three inches square, the interposed pieces of cloth being moistened with a solution of sal-ammoniac. The brachial artery was compressed so that the pulsations in the tumour ceased. Two of the needles were then brought into communication with the poles of the apparatus by means of brass wires wrapt round with silk at the points where they were handled. The galvanic current was very intense, and gave brilliant sparks at intervals. The shocks were violent, the patient being held by the assistants. The tumour at first diminished in size: then it seemed to become tense and red, without any increase of density. The patient complained of a burning heat at the points where the needles were inserted, and around each there was a slight cauterization. In ten minutes the density of the tumour began to increase; there were evidently nuclei of coagulation already formed. The current was still kept up alternated through each pair of needles. In fifteen minutes the tumour felt hard, and no pulsation was discoverable even when the artery ceased to be compressed. For five minutes more the current was kept up, and then the needles being removed, compression was applied to the artery, and a bladder filled with ice placed on the tumour. For the first few days the tumour progressively diminished, without any unpleasant occurrence—then inflammation of the aneurismal sac arose, accompanied with dull pains. The punctures made by the needles showed black sphacelated points, rendering a fetid pus, and small blackish masses, the debris of the coagulated blood in a semi organized state. Thus, the sac became inflamed and suppurated, emptying itself by the apertures made by the needles. The suppuration lasted a few days, and the exit of the pus was favoured by a slight compression. Twelve days after the galvano-puncture, it was ascertained that the tumour had completely disappeared—that there was no longer any trace of the aneurism—and that the circulation in the radial and ulnar arteries was restored. On examination, it was discovered that the brachial artery was very superficial, and that a second brachial artery ran deeper and posterior to that which was wounded.

Our author ascribes the inflammatory symptoms which arose in this case, to the want of an isolating coating on the needles at the time of the operation.

M. Petrequin's next case is one of popliteal aneurism, in which the cure was effected without any unpleasant accompaniment. The needles were applied exactly as in the last case, with the exception that they were covered with an isolating coating in the middle part. The galvanic current was kept up for sixteen minutes, at the end of which time the tumour had become hard; the pulsation had ceased, and no arterial sound could be heard; the skin was neither red nor tense, except that there was a slight rose-coloured areola, of small extent, around the needles. The patient made no complaint during the operation. The tumour progressively declined in size, though, at the time of his dismissal, nearly a month after the operation, it was still of the size of a small egg; before the operation, it was the size of the fist.

The next case is also one of popliteal aneurism, which M. Petrequin cites from the Milan Medical Gazette, as treated by Favale of Naples. The cure was complete; the skin, however, inflamed and suppurated; it is not stated whether or not the middle part of the needles had received the isolating coating.

The last case contained in M. Petrequin's memoir, is one of aneurism at the bend of the arm, the effect of venesection. In this case the plan of proceeding was the same, and the success complete. The report extends only to the ninth day after the operation; but up to that time nothing untoward had occurred.

M. Petrequin suggests the employment of the galvano-puncture in some other diseases besides aneurism; for example, in varix, erectile tumours, sanguineous tumours, &c. As a sequel to our author's memoir, we present our readers with an account of the effect of galvano-puncture on varicose veins by Milani; and the paper referred to above, on the power of simple acupuncture in the obliteration of arteries. It appears there was an earlier paper on the effect of galvano-puncture in varix, by J. Bertoni, in the July number of the *Gazzetta di Milano*.

54. *Closure of several Varices of the left Leg, by means of the Electro-puncture.* By Dr. MILANI, of Varese.—The patient was an organ-builder, fifty years of age, of a healthy and robust constitution, who went into the hospital at Varese, on the 2d of

August, 1846, to be cured of varix, which caused him so much pain as to prevent him from following his occupation. It had existed for four years. The whole of the internal saphena was considerably dilated, and presented ten different knots, some as large as a small nut, others about the size of a bean, while some smaller ones extended from the internal malleolus, to two fingers' breadth below the knee. The trunk of the saphena continued enlarged to about the inferior third of the thigh. A considerable knot could besides be distinguished at the external and upper part of the calf. Animated by the favourable result which he had seen to follow the application of electricity by M. Ciniselli, to a large popliteal aneurism, Dr. Milani determined to try it in this case. Having prepared a voltaic pile of twenty-six discs, of about two inches in diameter, he introduced two needles into the tumour situated at the inner and middle part of the calf, and having previously applied two ligatures firmly around the leg, above and below the tumour, united the needles with the two poles of the battery, by means of a copper-wire silvered over. The sitting lasted twelve minutes. The patient experienced, at the first, a considerable shock, which became afterwards gradually less, with a continued sensation of pricking and burning. The tumour withered, became small, and however much the saphena and its branches were compressed above it, it could not be made to increase more in size. In its interior there could be felt with the finger a degree of hardness, especially around the needle communicating with the zinc pole. Vinegar and water was afterwards ordered as a lotion to the whole of the leg. On the fourth, the electricity was applied to the trunk of the saphena, two inches above the knee, but the number of the piles having been increased to thirty-one, and the patient, not being able to support the shock, five were removed. In the third application, made about the middle of the leg, the wires were passed through the eyes of the needles. There were twenty-four pairs of plates, and they were allowed to act for fifteen minutes, in which time there were formed clots which extended two or three inches upwards, along the saphena, in the form of firm cylinders, and of unequal hardness. The fourth application was made to a varix higher up than the former. In four minutes, hardness could be felt in the tumour, chiefly around the zinc needle. In nine minutes, the clot extended a finger's breadth towards the lower part. The sixth, seventh, eighth and ninth applications lasted fifteen minutes, and gave the same results. In the last application, the needles were fixed in two neighbouring tumours. In eight minutes, clots were formed around the zinc pole, but the blood remained fluid around the copper pole. It was then determined to change the needles, introducing the first in the place of the second, and *vice versa*. In seven minutes, the other tumour, of the size of a filbert, was also closed up. At all the other times, it was only the zinc needle which offered any resistance in withdrawing it, but this time also the copper one was the same. By these means, the whole of the varices had disappeared in ten days.

Although the two points of the needles never touched each other, and sometimes were placed at a distance of an inch from one another, there never could be prevented from taking place a superficial cauterization of the skin, in the form of an areola around the two needles, always larger around the zinc one. Not even a plaster of wax, having only a small hole for the penetrating point, could prevent this occurrence. The treatment was supposed to be assisted by fomentations along the whole of the leg.

A varix of the size of a goose-egg, on the internal malleolus of the left leg of another patient, was filled with clot after two applications, and diminished to two-thirds of its size.—*Monthly Journ. Med. Sci.*, from *Gazzetta Med. di Milano*, 29 Aug., 1846.

55. *On the efficacy of Acupuncture in causing Obliteration of the Arteries.* By Dr. GIACINTO NAMIAS, of Venice.—Dr. Namias, wishing to try if the application of needles alone was sufficient to produce a coagulum, without the aid of an electric current, the primary carotid of an old horse was transfixed with the long needle, such as is generally used in acupuncture, and which was left in its situation for twenty-four hours. The artery was not laid bare, but was transfixed in the spot where the pulsations were most distinctly felt. The animal was killed five or six days afterward, by means of several ounces of cherry-laurel water being injected